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09/488,091	01/18/2000	Kevin R. Lillard	P31.12-0009	3933
7590 02/07/2005			EXAMINER	
Westman Champlin & Kelly PA International Centre 900 Second Avenue South Suite 1600 Minneapolis, MN 55402-3319			PARK, CHAN S	
			ART UNIT	PAPER NUMBER
			2622	
DATE MAILED: 02/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/488,091

Applicant(s)

LILLAND ET AL.

Examiner

CHAN S PARK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-18 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-18 and 20-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413) / DEPTER 0000  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

  
EDWARD COLES  
SUPERVISORY PATENT EXAMINER

TECHNICAL CENTER 0000

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 11/29/04 has been entered.

### ***Response to Amendment***

2. Applicant's amendment was received on 9/30/04, and has been entered and made of record. Currently, **claims 1-13, 15-18 and 20-23** are pending.

### ***Response to Arguments***

3. Applicant's arguments with respect to **claims 1-13, 15-18 and 20-23** have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

4. The drawings are objected to because the arrows between 28 and 26, and 26 and 32 are not bi-directional. Perhaps, they should be bi-directional since the amount of the print consumable is updated and notified to the computer.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

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replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to limitation (c), it is uncertain as to whether all image files are the same. It is noted that a single print consumable amount is calculated from an image file to calculate/estimate the total requested print consumable amount by multiplying the calculated single

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print consumable amount by the number of copies (page 9, lines 10-25 of the Specification). Thus, the multiplication seems to indicate that all images files are the same. Examiner suggests the applicant to amend the term "a number of image files" as "a number of copies to be rendered". For the examining purposes, examiner construes all images as the same images.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 15-18 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreau et al. U.S. Patent No. 6,791,704 (hereinafter Moreau) in view of Maruta et al. U.S. Patent No. 6,064,838 (hereinafter Maruta), and in further view of Bradshaw et al. U.S. Patent No. 6,264,295 (hereinafter Bradshaw).

6. With respect to claim 15, Moreau teaches a method for monitoring at least one print consumable of a printing device, comprising:

- (a) receiving a print job from a user (col. 6, lines 26-30);
- (b) determining a single print consumable amount for an image file of the print job defined as an amount of print consumable (first page in col. 6, line 55 – col. 7, lines 41 & col. 11, lines 7-29), which is selected from a group

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consisting of ink, toner, colored dye ribbon, and wax based ribbon, needed by the printing device to render the image file before rendering of the image file begins (col. 10, line 40 – col. 11, line 29);

(d) obtaining a remaining print consumable amount defined as an amount of print consumable that is available to the printing device (col. 10, lines 24-32; col. 11, lines 16-29 & col. 12, lines 31-33);

(e) comparing a requested print consumable amount to the remaining print consumable amount (col. 11, lines 16-29);

(f) interrupting rendering the print job, prior to rendering the image file, when the requested print consumable amount exceeds the remaining print consumable amount (col. 10, line 65 – col. 11, line 6);

(g) rendering the image file with the printing device when the requested print consumable amount does not exceed the remaining print consumable amount (col. 8, lines 62- col. 9, line 40);

(h) updating the remaining print consumable amount by subtracting the single print consumable amount of the image file (col. 12, lines 1-13 and note that the predicted quantity is the consumed quantity);

(i) determining whether the remaining print consumable amount has been exhausted (col. 12, lines 26-28);

(j) interrupting the rendering of the print job, when the remaining print consumable amount has been exhausted (col. 12, lines 26-28 and it is inherent/obvious since print job can no longer be performed and finished);

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(k) determining whether all of the image files of the print job have been rendered (col. 12, lines 1-7);

(m) determining a single print consumable amount of another image file of the print job if all of the image files have not been rendered (col. 12, lines 1-13);

(n) rendering the image file; and

(o) returning to step (h) (col. 12, lines 1-13).

Note that since Moreau teaches the method for determining whether the print job can be printed normally, it is obvious to one of ordinary skill in the art that the number of copies is considered for the determination.

Moreau, however, does not teach expressly the method comprising:

*receiving a print job including a number of image files that are to be rendered; and*

*(c) estimating a requested print consumable amount needed to render the print job by multiplying the single print consumable amount by the number of image files that are to be rendered.*

Maruata, the same field of endeavor of printing art, teaches a printer monitoring method, comprising:

*receiving a print job including a number of image files that are to be rendered (col. 14, lines 54-61);*

determining a single print consumable cost amount for an image file of the print job defined as an cost amount of print consumable, which is selected from a group consisting of ink, toner, colored dye ribbon, and wax based ribbon, needed

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by the printing device to render the image file before rendering of the image file begins (col. 7, line 39 – col. 9, line 43); and

(c) *estimating a requested print consumable cost amount needed to render the print job by multiplying the single print consumable amount by the number of image files that are to be rendered* (col. 1, lines 26-27 & col. 10, lines 35-38).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the multiplying method of Maruta into the print consumable monitoring method of Moreau.

The suggestion/motivation for doing so would have been to calculate the total consumable amount from a single consumable amount thus reducing the processing time.

The combination of Moreau and Maruta, however, does not teach expressly that the printing device is a compact disc printing device.

Bradshaw, on the other hand, discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41).

Moreau, Maruta and Bradshaw are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of detecting the remaining print consumable amount and interrupting the print job based on the remaining



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amount of Moreau with the method of printing image data on a CD surface of Bradshaw.

The suggestion for doing so would have been to provide a CD printer that monitors the print consumable such as remaining CD labels or CD's to be printed.

Therefore, it would have been obvious to combine Moreau to Bradshaw to obtain the invention as specified in claim

Therefore, it would have been obvious to combine Moreau and Maruta with Bradshaw to obtain the invention as specified in claim 15.

7. With respect to claim 1, Moreau teaches a method for monitoring at least one print consumable of a printing device, comprising:

(a) receiving a print job (electronic document), wherein the print job includes an image file (col. 8, line 64); and

(b) determining a requested print consumable amount defined as an amount of print consumable needed to render the print job before rendering of the print job begins, wherein the print consumable is selected from a group consisting of ink, toner, colored dye ribbon, and wax based ribbon (col. 6, line 55 – col. 7, line 41 & col. 10, line 40 – col. 11, line 29).

Maruata, the same field of endeavor of printing art, teaches a printer monitoring method, comprising:

*receiving a copy number representing the number of copies of the image file that are to be printed* (col. 14, lines 54-61); and

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determining a single print consumable cost amount for an image file of the print job defined as an cost amount of print consumable, which is selected from a group consisting of ink, toner, colored dye ribbon, and wax based ribbon, needed by the printing device to render the image file before rendering of the image file begins (col. 7, line 39 – col. 9, line43).

Bradshaw discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41).

Arguments analogous to those presented for claim 14, are applicable.

8. With respect to claim 23, Moreau teaches the method including:

(c) obtaining a remaining print consumable amount defined as an amount of print consumable that is loaded in the printing device (col. 10, lines 24-32; col. 11, lines 16-29; and col. 12, lines 31-33);

(d) comparing the requested print consumable amount to the remaining print consumable amount (col. 11, lines 16-29);

(e) interrupting rendering the print job, prior to rendering the print job, when the requested print consumable amount exceeds the remaining print consumable amount (col. 10, line 65 – col. 11, line 6); and

(f) rendering the print job with the printing device when the requested print consumable amount does not exceed the remaining print consumable amount (col. 8, line 62 – col. 9, line 40).

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9. With respect to claim 2, Moreau teaches the method wherein the interrupting step (e) includes warning the user that the print job cannot be completed (col. 10, lines 40-54).

10. With respect to claim 3, Moreau teaches the method including:  
displaying the maximum of copies can be made without changing the current ink cartridge (col. 10, lines 40-54); and  
modifying the print job from the display (col. 6, lines 26-30).

Maruata, the same field of endeavor of printing art, teaches a printer monitoring method, comprising:

providing the user with an option of adjusting/modifying the copy number of the print job (col. 9, lines 27-30; col. 11, lines 60-64; col. 14, lines 54-61; col. 16, lines 61-65).

Since Moreau discloses the displaying means and modifying means regarding the current print job, it would have been obvious to one of ordinary skill in the art to adjust/modify the print job copy number in accordance with the information displayed on displaying means. Hence, it would have been obvious to obtain the invention as specified in claim 3.

11. With respect to claim 4, Maruata teaches a printer monitoring method, wherein:

the print job further includes a print quality setting relating to an amount of print consumable used to print an image (col. 16, lines 61-65); and

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step of providing the user with the option of adjusting the print quality setting of the print job, whereby the requested print consumable amount can be reduced (col. 11, lines 60-64; col. 14, lines 54-61; and col. 16, lines 61-65).

Since Moreau discloses the displaying means and modifying means regarding the current print job, it would have been obvious to one of ordinary skill in the art to adjust/modify the print quality in accordance with the information displayed on displaying means. Hence, it would have been obvious to obtain the invention as specified in claim 4.

12. With respect to claim 5, Moreau teaches the method wherein the determining step (b) further comprises determining a single print consumable amount defined as the amount of print consumable needed to print a single copy (first page) of the image file (col. 6, line 55 – col. 7, line 41 & col. 11, lines 7-29).

Maruata, the same field of endeavor of printing art, teaches a printer monitoring method, comprising:

*receiving a print job including a number of image files that are to be rendered* (col. 14, lines 54-61);

determining a single print consumable cost amount for an image file of the print job defined as an cost amount of print consumable, which is selected from a group consisting of ink, toner, colored dye ribbon, and wax based ribbon, needed by the printing device to render the image file before rendering of the image file begins (col. 7, line 39 – col. 9, line 43); and

(c) *estimating a requested print consumable cost amount needed to render the print job by multiplying the single print consumable amount by the*

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*number of image files that are to be rendered* (col. 1, lines 26-27 & col. 10, lines 35-38).

Arguments analogous to those presented for claim 15, are applicable.

13. With respect to claim 6, Moreau teaches the method wherein:

the determining step (b) further comprises calculating a maximum copy number representing a maximum number of copies of the image file that can be printed based upon the remaining print consumable amount and the single print consumable amount (col. 7, lines 7-29).

Maruata, the same field of endeavor of printing art, teaches a printer monitoring method, comprising:

providing the user with at least one option selected from the group consisting of:

adjusting the copy number of the print job to the maximum copy number;  
and

adjusting the copy number of the print job to a number that is less than the maximum copy number (col. 9, lines 27-30 and col. 14, lines 54-67).

Arguments analogous to those presented for claims 3 and 4, are applicable.

14. With respect to claim 7, Moreau teaches the method wherein the interrupting step (e) comprises providing the user with the option of adjusting the amount of print consumable that is available (col. 12, lines 13-50).

15. With respect to claim 8, Moreau teaches the method wherein:

the print consumable is stored in a first print cartridge; and

the interrupting step (e) further comprises:

- (e)(i) receiving a filename for the first print cartridge;
- (e)(ii) saving the remaining print consumable amount of the first print cartridge in a memory under the filename;
- (e)(iii) replacing the first print cartridge with a second print cartridge having a remaining print consumable amount;
- (e)(iv) resetting the remaining print consumable amount to the remaining print consumable amount of the second cartridge (col. 12, lines 13-50); and
- (e)(v) returning to the comparing step (d)

Note that Moreau teaches the method of saving the remaining consumable amount of at least ten cartridges in a memory. Thus, it is inherent/obvious to one of ordinary skill in the art to save the amount information under a filename to identify the each cartridge.

16. With respect to claim 9, Moreau teaches the method wherein the second print cartridge is one of a new print cartridge having a maximum remaining print consumable amount and a used print cartridge having a remaining print consumable amount that is stored in memory under a filename (col. 12, lines 13-50). Arguments analogous to those presented for claim 8, are applicable.

17. With respect to claims 10 and 11, as noted above in claim 3, Moreau teaches the method including:

- displaying the maximum of copies can be made without changing the current ink cartridge (col. 10, lines 40-54); and

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modifying the print job from the display (col. 6, lines 26-30).

Maruata, the same field of endeavor of printing art, teaches a printer monitoring method, comprising:

providing the user with an option of canceling the rendering of the print job (col. 9, lines 27-30); and

providing the user with an option of rendering the print job without any adjustment (abstract).

Arguments analogous to those presented for claims 3 and 4, are applicable.

18. With respect to claim 12, Moreau teaches the method wherein the rendering step (f) further comprises updating the remaining print consumable amount by deducting the requested print consumable amount (col. 12, lines 1-13).

19. With respect to claim 13, Moreau teaches the method wherein the rendering step (f) comprises:

(f) (i) printing a single copy of the image file;

(f) (ii) deducting the single print consumable amount (predicted quantity) from the remaining print consumable amount; and  
(f) (iii) repeating the printing step (f) (i) and the deducting step (f) (ii) until the print job is completely rendered (col. 12, lines 1-13). It is noted that the predicted quantity is the consumed quantity.

20. With respect to claim 16, arguments analogous to those presented for claims 3 and 4, are applicable.

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21. With respect to claim 17, arguments analogous to those presented for claims 3 and 4, are applicable.

22. With respect to claim 18, arguments analogous to those presented for claim 4, are applicable.

23. With respect to claim 20, arguments analogous to those presented for claim 15, are applicable.

24. With respect to claim 21, Bradshaw discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a *label for the CD* (col. 5, lines 39-41). Arguments analogous to those presented for claim 15, are applicable.

25. With respect to claim 22, arguments analogous to those presented for claim 15, are applicable.

### ***Conclusion***

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,970,275 to Brown, Jr. et al. teaches a method for counting the number of pixels at which ink is printed and computing the usage of ink from the number counted. The amount of the beginning of full supply of ink is known and the estimated remaining ink amount is computed by subtracting the estimated usage.



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27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S PARK whose telephone number is (703) 305-2448. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

csp  
January 24, 2005

Chan S. Park  
Examiner  
Art Unit 2622

  
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